



IMI CORNELIUS REMCOR INC ■ 500 REGENCY DRIVE ■ GLENDALE HEIGHTS, IL 60139-2268

Telephone (800) 551-4423

Facsimile (800) 519-4423

Operator's Manual

ICE/BEVERAGE DISPENSER

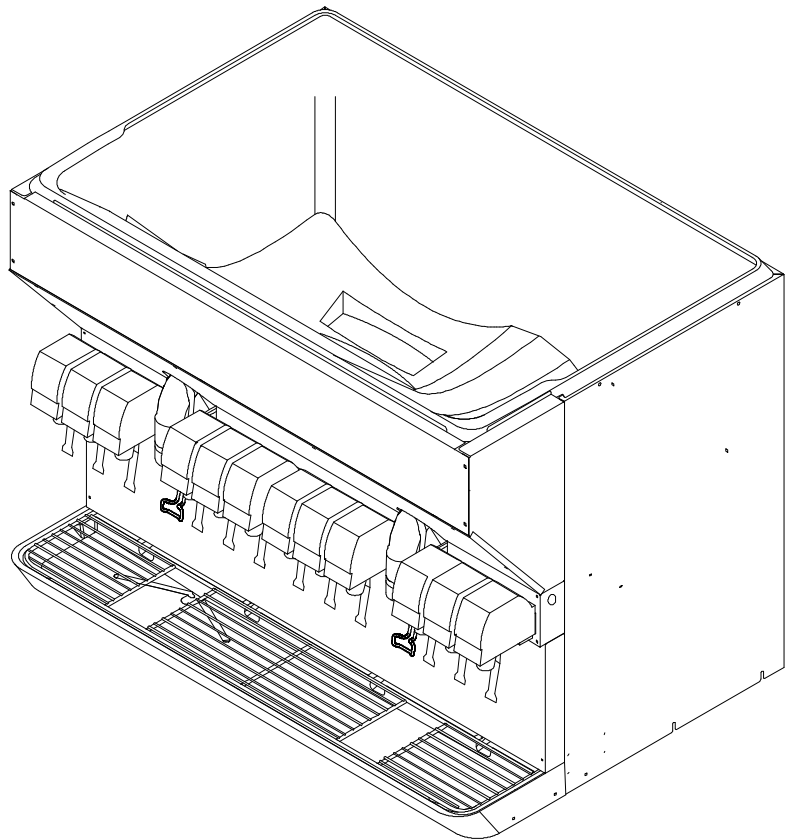
Model: ED 300 BN

IMPORTANT:

TO THE INSTALLER.

It is the responsibility of the Installer to ensure that the water supply to the dispensing equipment is provided with protection against backflow by an air gap as defined in ANSI/ASME A112.1.2-1979; or an approved vacuum breaker or other such method as proved effective by test.

Water pipe connections and fixtures directly connected to a potable water supply shall be sized, installed, and maintained according to Federal, State, and Local Codes.



Part No. 620913201
November 16, 1998
Revised: June 8, 2000
Revision C

THIS DOCUMENT CONTAINS IMPORTANT INFORMATION

This Manual must be read and understood before installing or operating this equipment

TABLE OF CONTENTS

	Page
MAINTENANCE	1
DAILY (OR AS REQUIRED)	1
WEEKLY (OR AS REQUIRED)	1
MONTHLY	1
START-UP & OPERATING INSTRUCTIONS	1
CLEANING INSTRUCTIONS	1
DISPENSER	2
BEVERAGE SYSTEM	3
REMOVAL AND REPLACEMENT OF AGITATORS	5
TO REMOVE AGITATORS FOR CLEANING	5
TROUBLESHOOTING	6
BLOWN FUSE OR CIRCUIT BREAKER.	6
GATE DOES NOT OPEN. AGITATOR DOES NOT TURN.	6
GATE DOES NOT OPEN OR IS SLUGGISH. AGITATOR TURNS.	6
ICE DISPENSES CONTINUOUSLY.	6
SLUSHY ICE. WATER IN HOPPER.	6
BEVERAGES DO NOT DISPENSE.	6
BEVERAGES TOO SWEET.	6
BEVERAGE NOT SWEET ENOUGH.	7
AGITATORS TURN IN OPPOSITE DIRECTIONS	7
ICE DOES NOT DISPENSE FROM ONE GATE ASSEMBLY	7
WARRANTY	14

LIST OF FIGURES

FIGURE 1. ENDURO 300 ASSEMBLY	8
FIGURE 2. MOTOR COMPONENTS	10
FIGURE 3. GATE SOLENOID ASSEMBLY	10
FIGURE 4. ELECTRICAL BOX ASSEMBLY	11
FIGURE 5. VALVE PANEL ASSEMBLY	12
FIGURE 6. LADDER SCHEMATIC	13

MAINTENANCE

The following dispenser maintenance should be performed at the intervals indicated:

DAILY (or as required)

Remove foreign material from vending area drip tray and drain strainer to prevent drain blockage. The drip tray drain strainer can be cleaned by removing it from the drain and flushing it with water. It is important to monitor the drip tray frequently to check for blockage of the drain to avoid drip tray overflow. Clean up immediately any spilled liquid and/or ice to prevent slips and falls.

WEEKLY (or as required)

Clean vending area. Check for proper water drainage from the vending area drip tray.

MONTHLY

Clean and sanitize the hopper interior (see CLEANING INSTRUCTIONS).

START-UP & OPERATING INSTRUCTIONS

This Unit is intended for automatic ice fill from a Top-Mounted Icemaker. Refer to Installation instructions for the Icemaker Adapter Kit and the Icemaker Manufacturer's instructions for start-up and operating procedures for the Icemaker. Start up the beverage system and adjust faucets to the proper brix. Contact your local syrup distributor for complete information on the beverage system.

In normal operation, pushing the ice chute lever will cause ice to flow from the ice chute. Ice flow will continue until the lever is released. Dispensing of any faucet will provide beverage of the appropriate flavor.



CAUTION: Use caution to avoid spilling ice when manually filling the dispenser. Immediately clean up any spilled ice from filling or operating the unit. To prevent contamination of ice, the manual-fill lid *must* be installed on the unit at all times.

If the dispenser fails to dispense ice or beverage see troubleshooting guide.

CLEANING INSTRUCTIONS



WARNING: Disconnect Power Before Cleaning! Do not use metal scrapers, sharp objects or abrasives on the ice storage hopper, top cover and the agitator disk, as damage may result. Do not use solvents or other cleaning agents, as they may attack the plastic material.

Soap solution - use a mixture of mild detergent and warm 100 degrees F potable water.

Sanitizing solution - use 1/2 ounce of household bleach in 1 gallon of potable water. Preparing the sanitizing solution to this ratio will create a solution of 200 PPM.

DISPENSER

1. CLEANING EXTERIOR SURFACES

Important: Perform the following daily.

- A. Remove the cup rest from drip tray.
- B. Wash the drip tray with soap solution. Rinse with clean water and allow solution to run down the drain.
- C. Wash cup rest with soap solution and rinse in clean water. Install the cup rest into the drip tray.
- D. Clean all exterior surfaces with soap solution and rinse in clean water.

2. CLEANING INTERIOR SURFACES



WARNING: Disconnect Power Before Cleaning! Do not use metal scrapers, sharp objects or abrasives on the ice storage hopper and the agitator disk as damage may result. Do not use solvents or other cleaning agents, as they may attack the plastic material.



CAUTION: When pouring liquid into the hopper, do not exceed the rate of 1/2 gallon per minute.

Important: Perform the following at least once a month.

- A. Remove the ice manual fill cover. Remove agitator and the agitator disc..
- B. Using a long handle nylon bristle brush, clean the interior of the hopper and the icemaker adapter lid with a soap solution. Clean the agitator, agitator disc, and the manual fill cover with a soap solution using a nylon brush or a sponge. Thoroughly rinse the hopper, adapter lid, agitator, agitator disc, and the manual fill cover with clean potable water.
- C. Remove the front access panel and ice chute covers from the dispenser.
- D. With a nylon bristle brush or sponge, clean the inside of the ice chute, gasket and cover with soap solution and rinse thoroughly to remove all traces of detergent.
- E. Re-assemble agitator assembly. Make certain that o-ring is seated properly in agitator bushing.
- F. Using a mechanical spray bottle filled with sanitizing solution, spray the entire interior including the manual fill cover and the agitator assembly. Allow to air dry. Replace manual fill cover.
- G. Re-assemble ice chute assembly.
- H. Using a mechanical spray bottle filled with sanitizing solution, spray the inside of the ice chute. Allow to air dry.
- I. Reinstall front access panel.

BEVERAGE SYSTEM

Soap solution - use a mixture of mild detergent and warm 100 degrees F potable water.

Sanitizing solution - use 1/2 ounce of household bleach in 1 gallon of potable water. Preparing the sanitizing solution to this ratio the required solution of 200 PPM will be obtained.

Cleaning tank - Fill clean, empty tank with five (5) gallons of warm potable water.

1. DISPENSING VALVES

Refer to addendum supplied with the unit that is applicable to the manufacturer of the valves installed on the unit.

2. PRODUCT TUBING

Only trained and qualified persons should perform these cleaning and sanitizing procedures.

A. Sanitize tank systems, Post-Mix and Pre-Mix

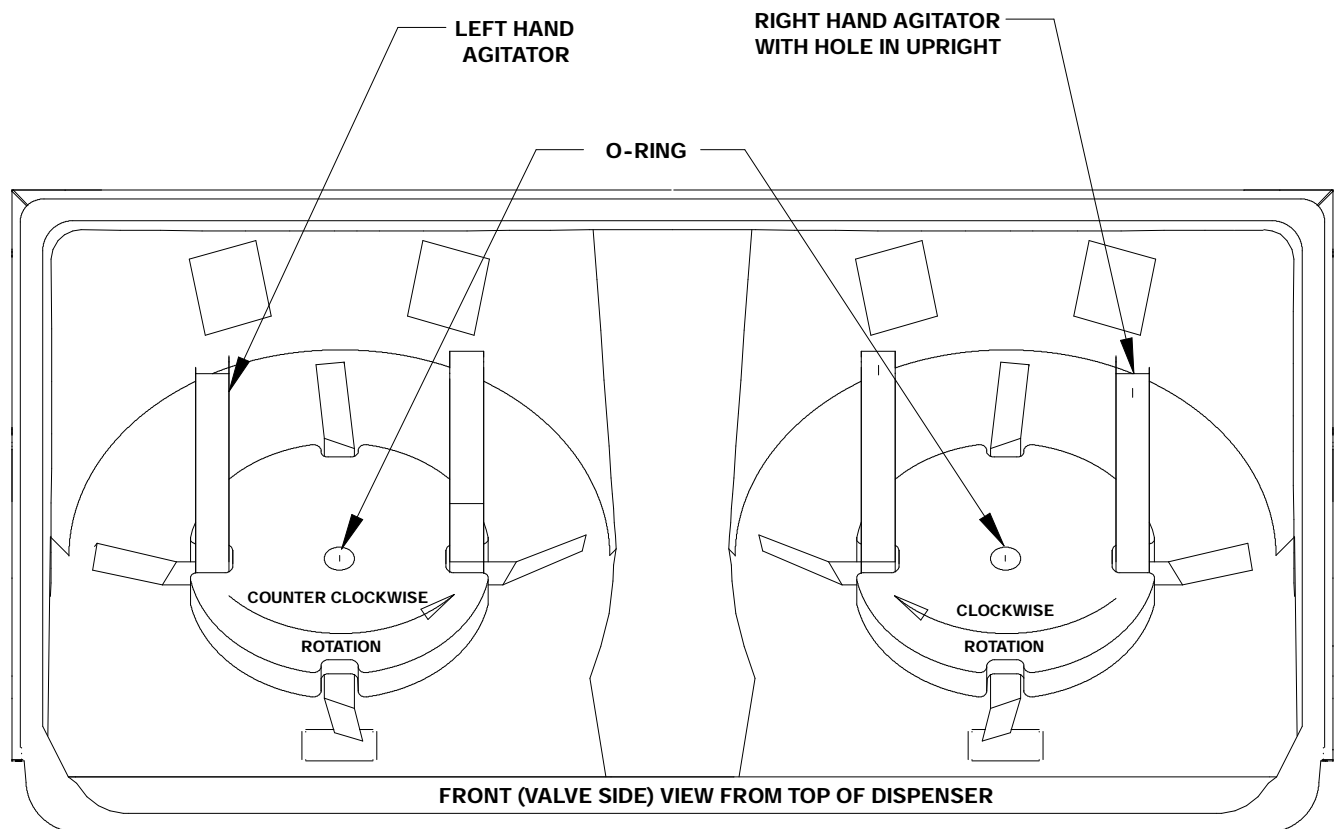
- a. Remove all the quick disconnects from all the tanks. Fill a suitable pail or bucket with soap solution.
- b. Submerge all disconnects (gas and liquid) in the soap solution and then clean them using a nylon bristle brush. (**Do not use a wire brush**). Rinse with clean water.
- c. Prepare sanitizing solution and using a mechanical spray bottle, spray the disconnects. Allow to air dry.
- d. Using a clean, empty tank, prepare five (5) gallons of the sanitizing solution. Rinse the tank disconnects with approximately 9 oz. of the sanitizing solution. Close the tank.
- e. Prepare cleaning tank by filling clean five (5) gallon tank with warm 100 degrees F potable water.
- f. Connect a gas disconnect to the tank and then apply one of the product tubes to the cleaning tank. Operate the appropriate valve until liquid dispensed is free of any syrup.
- g. Disconnect cleaning tank and hook up sanitizing tank to syrup line and CO₂ system.
- h. Energize beverage faucet until chlorine sanitizing solution is dispensed through the faucet. Flush at least two (2) cups of liquid to insure that the sanitizing solution has filled the entire length of the syrup tubing.
- i. Allow sanitizer to remain in lines for fifteen (15) minutes.
- j. Repeat the step above, applying a different product tube each time until all tubes are filled with the sanitizing solution.
- k. For post-mix valves, remove the nozzle and syrup diffuser and clean them in a mild soap solution. Rinse with clean water and reassemble the nozzle and syrup diffuser to the valve.
- l. Discard the tank of sanitizing solution and reconnect the syrup tanks. Operate the valves until all sanitizer has been flushed from the system and only syrup is flowing.

B. Sanitize syrup lines, B-I-B Systems

- a. Remove all the quick disconnects from all the B-I-B containers.
- b. Fill a suitable pail or bucket with soap solution.
- c. Submerge all disconnects (gas and liquid) in the soap solution and then clean them using a nylon bristle brush. (**Do not use a wire brush**). Rinse with clean water.
- d. Using a plastic pail, prepare approximately five (5) gallons of sanitizing solution.

- e. Rinse the B-I-B disconnects in the sanitizing solution.
- f. Sanitizing fittings must be attached to each B-I-B disconnect. If these fittings are not available, the fittings from empty B-I-B bags can be cut from the bags and used. These fittings open the disconnect so the sanitizing solution can be drawn through the disconnect.
- g. Place all the B-I-B disconnects into the pail of sanitizing solution. Operate all the valves until the sanitizing solution is flowing from the valve. Allow sanitizer to remain in lines for fifteen (15) minutes.
- h. Remove the nozzle and syrup diffuser from each valve and clean them in a soap solution. Rinse with clean water and reassemble the nozzle and syrup diffuser to the valve.
- i. Remove the sanitizing fittings from the B-I-B disconnects and connect the disconnects to the appropriate B-I-B container. Operate the valves until all sanitizer has been flushed from the system and syrup is flowing freely.

REMOVAL AND REPLACEMENT OF AGITATORS



To Remove Agitators For Cleaning

1. Lift agitator and disc from unit..
2. Remove O-Ring starting at notch. Warm the O-Ring with water to ease removal.
3. Lift the plastic agitator disc off of the stainless-steel agitator.
4. Replace by reversing steps.

Note: Refer to **Sanitize Procedure** in the Owners Instruction for complete cleaning and sanitizing instructions.

THIS PAGE LEFT BLANK INTENTIONALLY

TROUBLESHOOTING

IMPORTANT: Only qualified personnel should service internal components or electrical wiring.



WARNING: If repairs are to be made to a product system, remove quick disconnects from the applicable product tank, then relieve the system pressure before proceeding. If repairs are to be made to the CO₂ system, stop dispensing, shut off the CO₂ supply, then relieve the system pressure before proceeding. If repairs are to be made to the refrigeration system, make sure electrical power is disconnected from the unit.

Should your unit fail to operate properly, check that there is power to the unit and that the hopper contains ice. If the unit does not dispense, check the following chart under the appropriate symptoms to aid in locating the defect.

Trouble	Probable Cause
BLOWN FUSE OR CIRCUIT BREAKER.	<ul style="list-style-type: none"> A. Short circuit in wiring. B. Defective gate solenoid. C. Defective agitator motor. D. Defective gate rectifier
GATE DOES NOT OPEN. AGITATOR DOES NOT TURN.	<ul style="list-style-type: none"> A. No power. B. Bent depressor plate (does not actuate switch). C. Defective dispensing switch.
GATE DOES NOT OPEN OR IS SLUGGISH. AGITATOR TURNS.	<ul style="list-style-type: none"> A. Defective gate solenoid. B. Excessive pressure against gate slide. C. Defective Rectifier.
ICE DISPENSES CONTINUOUSLY.	<ul style="list-style-type: none"> A. Stuck or bent depressor plate (does not release switch). B. Defective dispensing switch. C. Improper switch installation.
SLUSHY ICE. WATER IN HOPPER.	<ul style="list-style-type: none"> A. Blocked drain. B. Unit not level. C. Poor ice quality due to water quality or icemaker problems. D. Improper use of flaked ice.
BEVERAGES DO NOT DISPENSE.	<ul style="list-style-type: none"> A. No 24 volt power to faucets. B. No CO₂ pressure.
BEVERAGES TOO SWEET.	<ul style="list-style-type: none"> A. Carbonator not working. B. No CO₂ pressure in carbonator. C. Faucet brix requires adjusting.

Trouble	Probable Cause
BEVERAGE NOT SWEET ENOUGH.	A. Empty syrup tank. B. Faucet brix requires adjusting.
AGITATORS TURN IN OPPOSITE DIRECTIONS	A. This is normal and is necessary for uniform ice agitation.
ICE DOES NOT DISPENSE FROM ONE GATE ASSEMBLY	A. Agitators reversed B. Defective gate solenoid or rectifier C. Motors wired incorrectly

Contact your local syrup or beverage equipment distributor for additional information and troubleshooting of beverage system.

ENDURO 300 (ED300) (POST-MIX)

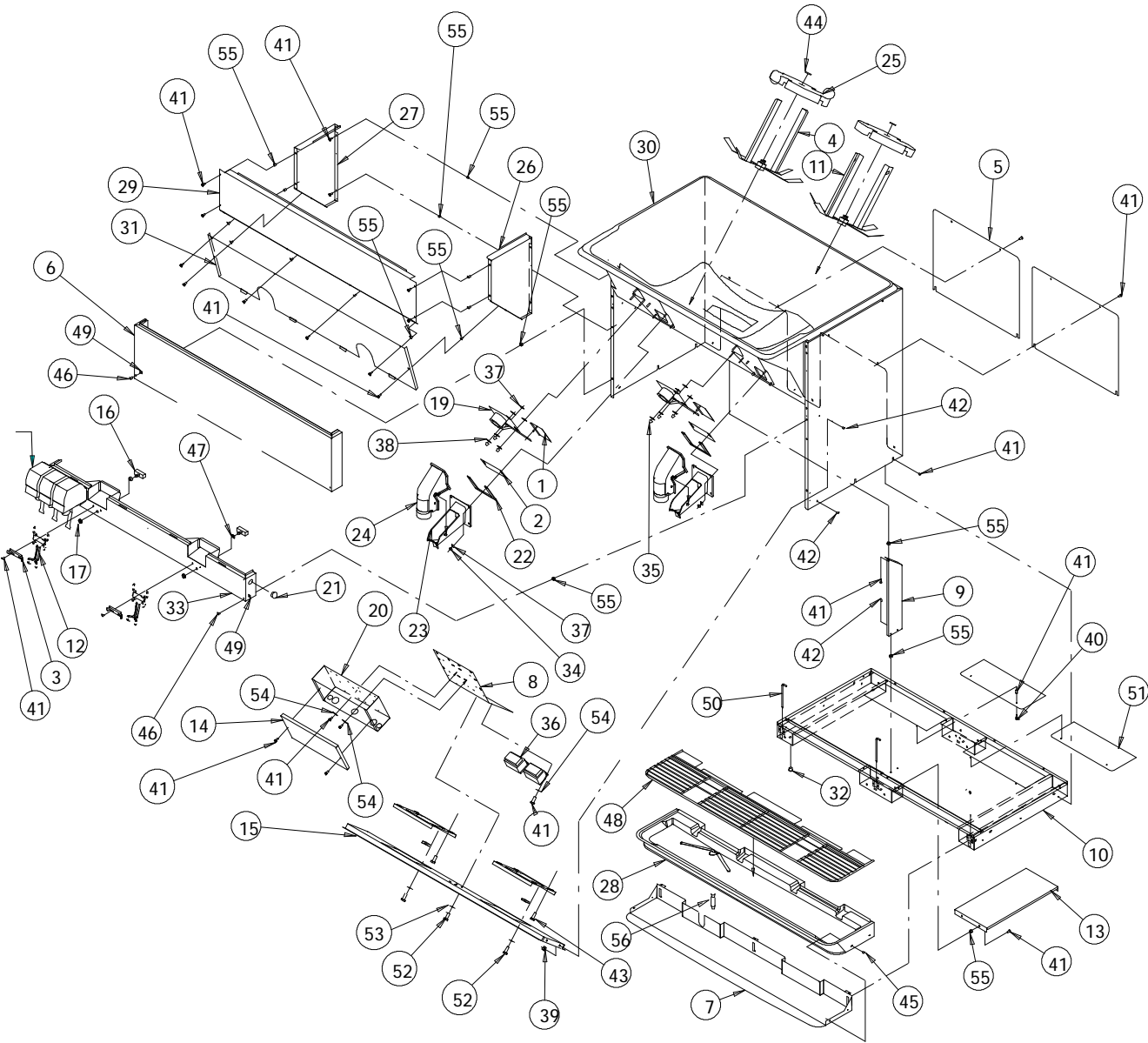


FIGURE 1. ENDURO 300 ASSEMBLY

ENDURO 300 (ED300) (POST-MIX)

Item No.	Part No.	Name
1	21491	Slide, Gate
2	22081R	Restrictor, Gate
3	27107	Bracket, Lever Depressor
4	15213	Agitator, Left
5	620031608	Panel, Access Rear
6	620044541	Panel, Lower
7	15196	Extension, Drip Tray
8	620031605	Bracket, Electrical Box
9	29507	Bracket, Motor Support
10	15808	Base Ass'y
11	15214	Agitator, Right
12	15500	Lever, Ice Chute
13	29667	Support, Product Lines
14	620031607	Cover, Electrical Box
15	29493	Bracket, Motor Mounting
16	30895	Switch
17	31007	Boot, Switch
18	*32498	Agitator Motor (See Figure 2)
19	32954	Solenoid Ass'y (See Figure 3)
20	620307101	Electrical Box Ass'y (See Figure 4)
21	51908	Plug
22	51891	Gasket, Gate
23	620500901	Ice Chute
24	53168	Cover, Ice Chute
25	53185	Disk, Agitator
26	620031601	Panel, Side, Right-Hand
27	620031610	Panel, Side, Left-Hand
28	53230	Drip Tray
29	620031603	Panel, Upper Front

Item No.	Part No.	Name
30	620307401	Hopper/Cabinet Ass'y
31	620031609	Panel, Access Front
32	52967	Plug
33	620404201	Dispensing Valve Panel Ass'y (See Figure 5)
34	70016	Hex Nut, No. 10-32
35	70017	Insert, Nylon, No. 10-32
36	32682	Transformer, 24V
37	70056	Washer, Flat, No. 10
38	70067	Washer
39	70076	Hex Nut, No. 8-32
40	70055	Tinnerman Clip, No. 8-32
41	70171	Screw, Phil Truss Hd., No. 8-32 By 3/8-In. Long
42	70178	Screw, Phil Truss Hd., No. 8-32 By 1/2-In. Long
43	70204	Screw, Phil Truss Hd., No. 8-32
44	41459	O-Ring
45	70478R	Clip, Pushon
46	70555	Screw, Phil Truss Hd., No. 8-32 By 3-In. Long
47	70847	Washer, Switch
48	71038	Cup Rest
49	71010	Washer, No. 8
50	10145	Pin, Drip Tray
51	51455R	Panel, Base
52	70250	Screw, Phil Truss Hd, 1/4-20 By 1/2-In. Long
53	70060	Lockwasher, 1/4 Ext, Tooth
54	70121	Lockwasher, No. 8 Ext Tooth
55	70959	Nutsert, No. 8-32
56	620704101	Strainer, Drip Tray Drain

Note: * Not shown

ENDURO 300 (ED300) (POST-MIX)

Item No.	Part No.	Name
1	29303R	Bracket, Gear Box
2	15218	Plate, Motor Mount
3	29493	Bracket, Motor Mount
4	30794	Heater, Motor
5	32498	Motor
6	51859	Seal, Motor Shaft
7	52876	Gasket, Motor
8	70018	Hex Nut, 1/4-20
9	70260	Screw, Phil Rd. Hd., 1/4-20 By 1-In. Long
10	70341	Spring, Motor Heater
11	70992	Receptacle, 1/4-turn
12	70993	Retainer, 1/4-turn
13	70994	Stud, 1/4-turn
14	70048	Washer, Lock, 1/4
15	70250	Screw, Phil Truss Hd, 1/4-20 By 1/2-In. Long

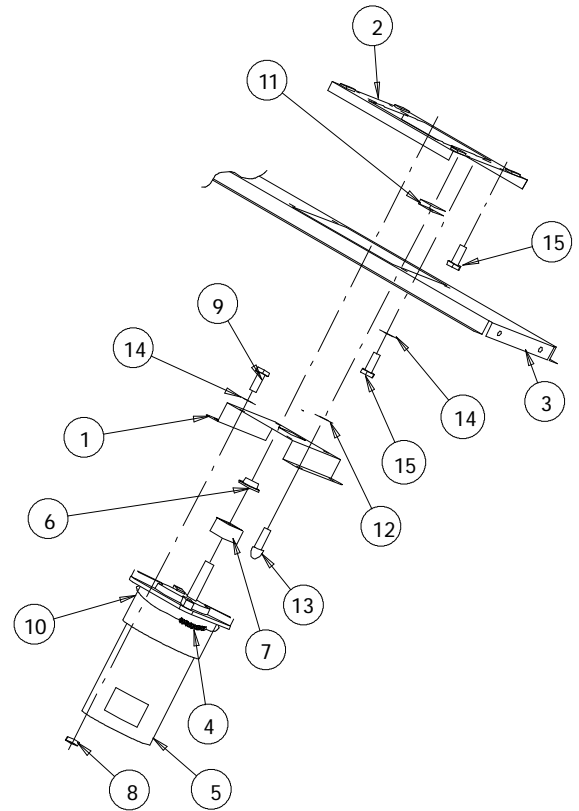


FIGURE 2. MOTOR COMPONENTS

Item No.	Part No.	Name
	32954	Gate Solenoid Ass'y
1	28173	Arm, Gate Lift
2	50754	Bearing, Gate Arm
3	32957	Solenoid
4	28172	Plate, Solenoid Mounting
5	50752	Isolator
6	70015	Hex Nut, No. 10-32
7	70162	Screw, No. 8-32 By 1/4-In. Long
8	70165	Screw, No. 8-32 By 5/8-In. Long
9	71007	Spring, Solenoid Arm
10	51348	Spacer
11	70067	Washer
12	70057	Lockwasher, No. 10

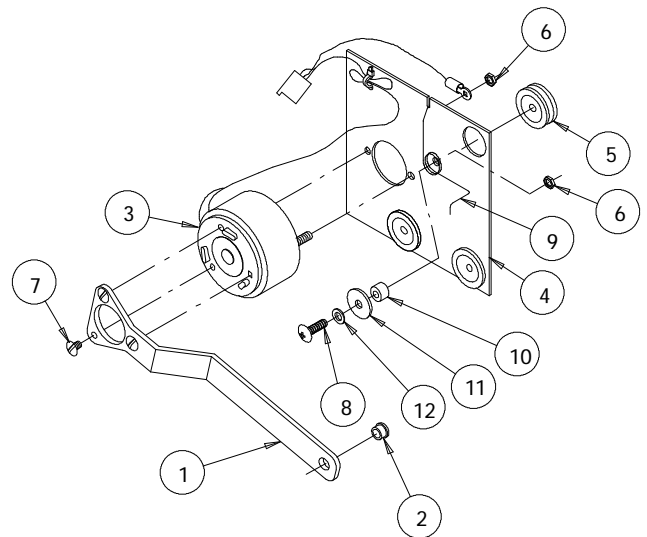


FIGURE 3. GATE SOLENOID ASSEMBLY

ENDURO 300 (ED300) (POST-MIX)

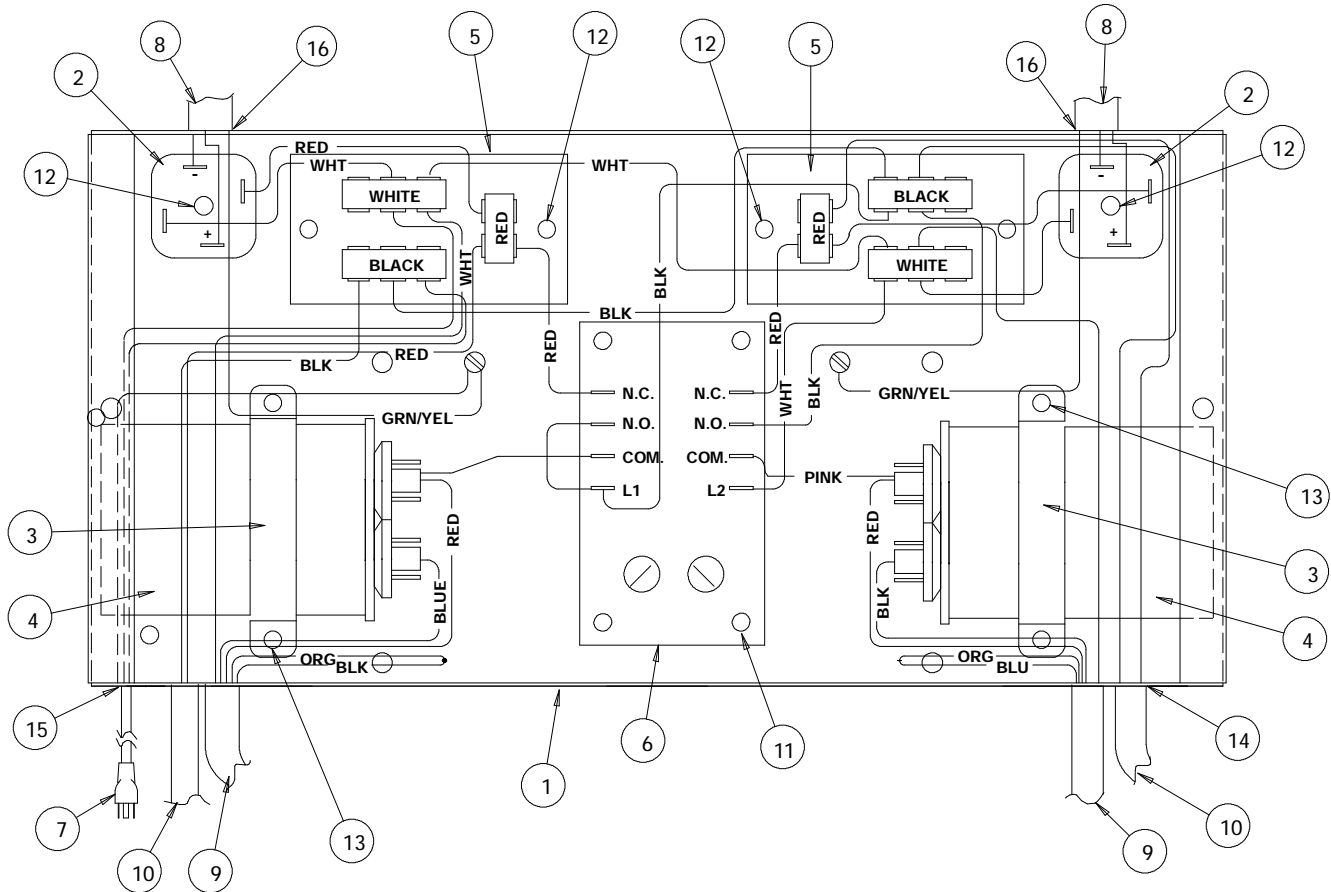


FIGURE 4. ELECTRICAL BOX ASSEMBLY

Item No.	Part No.	Name
	620307101	Electrical Box Ass'y
1	620031606	Box, Electrical
2	32958	Rectifier
3	30514	Clamp, Capacitor
4	30774	Capacitor
5	31107	Terminal Block
6	31763	Timer, Repeat Cycle
7	30995	Power Cord
8	33615	Harness, Solenoid

Item No.	Part No.	Name
9	33617	Harness, Motor
10	32782	Harness, Dispenser Switch
11	70147	Screw, Phil Rd Hd, No. 6-32 By 1/2-In. Long
12	70219	Screw, No. 8, Type B
13	70215	Screw, SI Washer Hd, No. 8-32 By 1/4-In. Long
14	50459	Bushing, Harness
15	50458	Strain Relief
16	50475	Bushing, Jumper

ENDURO 300 (ED300) (POST-MIX)

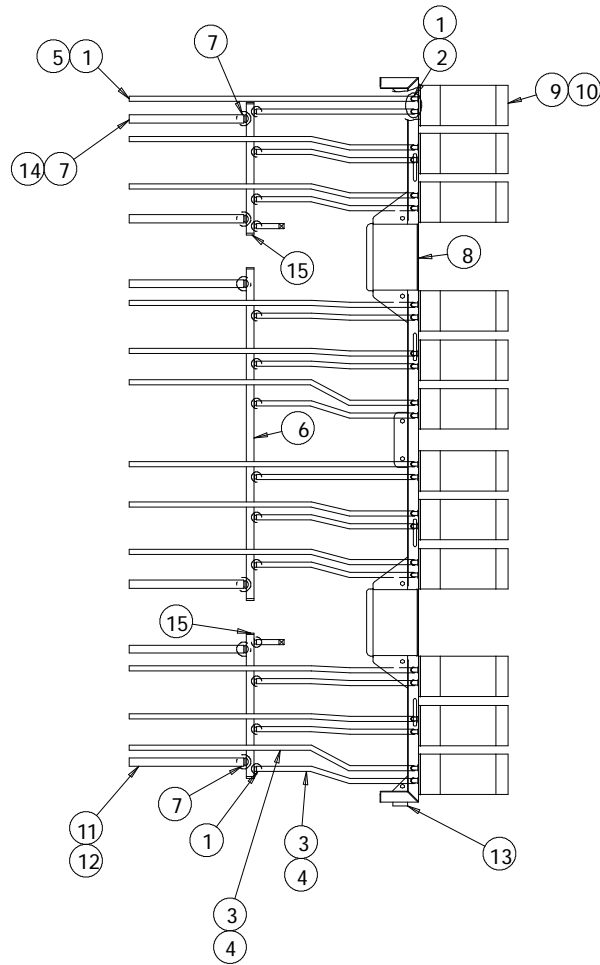


FIGURE 5. VALVE PANEL ASSEMBLY

Item No.	Part No.	Name
	620404201	Valve Panel Ass'y, 12 Flavor
1	40502	Clamp
2	40439	Fitting, Valve Inlet
3	50249	Insulation, Beverage Tubing
4	52792	Beverage Tubing, 1/4 I.D.
5	40649R	Fitting, Syrup Inlet, 1/4 Barb
6	40949	Manifold, 6-Valve
7	40657	Clamp

Item No.	Part No.	Name
8	15356	Panel, Valve Mount
9	40483	Dispensing Valve
10	620700602	Screw, No. 10
11	50014	Tubing, Water, 1/2 I.D.
12	50130	Insulation, Water Tubing
13	32977	Switch, Valve, on/off
14	40731R	Fitting, Water Inlet, 1/2 Barb
15	41209	Manifold, 4-Valve

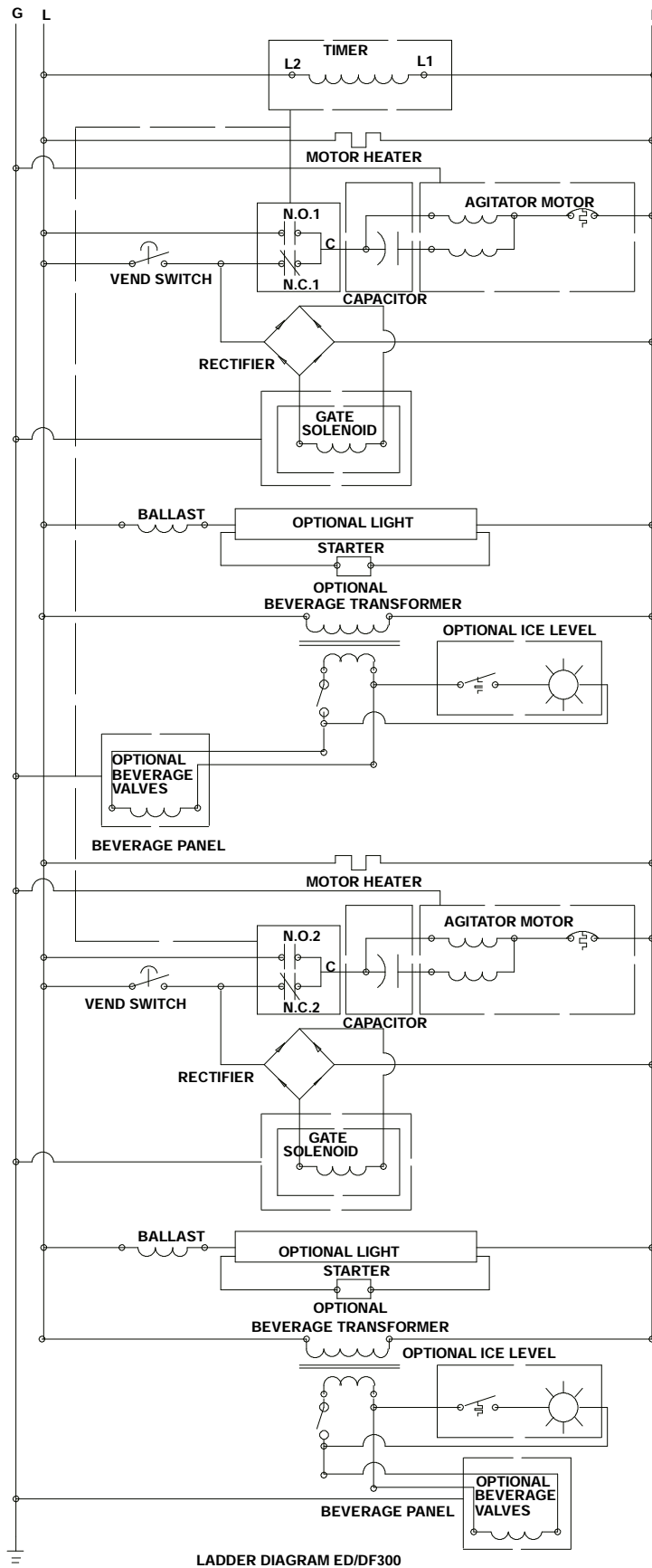


FIGURE 6. LADDER SCHEMATIC

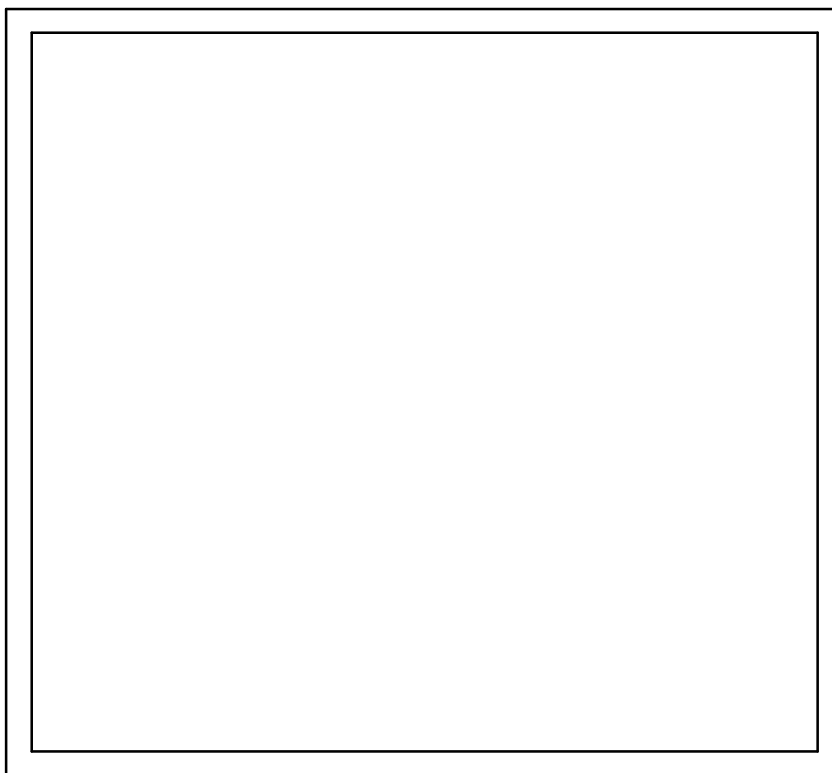
WARRANTY

IMI Cornelius Inc. warrants that all equipment and parts are free from defects in material and workmanship under normal use and service. For a copy of the warranty applicable to your Cornelius, Remcor or Wilshire product, in your country, please write, fax or telephone the IMI Cornelius office nearest you. Please provide the equipment model number, serial number and the date of purchase.

IMI Cornelius Offices

AUSTRALIA • P.O. 210, • RIVERWOOD, • NSW 2210, AUSTRALIA • (61) 2 533 3122 • FAX (61) 2 534 2166
AUSTRIA • AM LANGEN FELDE 32 • A-1222 • VIENNA, AUSTRIA • (43) 1 233 520 • FAX (43) 1-2335-2930
BELGIUM • BOSKAPELLEI 122 • B-2930 BRAASCHAAT, BELGIUM • (32) 3 664 0552 • FAX (32) 3 665 2307
BRAZIL • RUA ITAOCARA 97 • TOMAS COELHO • RIO DE JANEIRO, BRAZIL • (55) 21 591 7150 • FAX (55) 21 593 1829
ENGLAND • TYTHING ROAD ALCESTER • WARWICKSHIRE, B49 6 EU, ENGLAND • (44) 789 763 101 • FAX (44) 789 763 644
FRANCE • 71 ROUTE DE ST. DENIS • F-95170 DEUIL LA BARRE • PARIS, FRANCE • (33) 1 34 28 6200 • FAX (33) 1 34 28 6201
GERMANY • CARL LEVERKUS STRASSE 15 • D-4018 LANGENFELD, GERMANY • (49) 2173 7930 • FAX (49) 2173 77 438
GREECE • 488 MESSOGION AVENUE • AGIA PARASKEVI • 153 42 • ATHENS, GREECE • (30) 1 600 1073 • FAX (30) 1 601 2491
HONG KONG • 1104 TAIKOTSUI CENTRE • 11-15 KOK CHEUNG ST • TAIKOKTSUE, HONG KONG • (852) 789 9882 • FAX (852) 391 6222
ITALY • VIA PELLIZZARI 11 • I-20059 • VIMARCATI, ITALY • (39) 39 608 0817 • FAX (39) 39 608 0814
NEW ZEALAND • 20 LANSFORD CRES. • P.O. BOX 19-044 AVONDALE • AUCKLAND 7, NEW ZEALAND • (64) 9 8200 357 • FAX (64) 9 8200 361
SINGAPORE • 16 TUAS STREET • SINGAPORE 2263 • (65) 862 5542 • FAX (65) 862 5604
SPAIN • POLIGONO INDUSTRIAL • RIERA DEL FONOLLAR • E-08830 SANT BOI DE LLOBREGAT • BARCELONA, SPAIN • (34) 3 640 2839 • FAX (34) 3 654 3379
USA • ONE CORNELIUS PLACE • ANOKA, MINNESOTA • (612) 421-6120 • FAX (612) 422-3255

LD004
4/21/98



IMI CORNELIUS INC.

CORPORATE HEADQUARTERS:

One Cornelius Place
Anoka, Minnesota 55303-6234
(612) 421-6120
(800) 238-3600

